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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Tomoki HIROTA

Appln. No.: 09/813,992

Confirmation No.: 2670

Filed: March 22, 2001

Docket No: Q63598

Allowed: November 19, 2002

Group Art Unit: 2812

Examiner: Jennifer M. KENNEDY

For: METHOD OF AND APPARATUS FOR CUTTING OFF FUSE ELECTRODE,
INTEGRATED CIRCUIT DEVICE, AND METHOD OF MANUFACTURING SAME

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§ 1.97 and 1.98

BOX ISSUE FEE

Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

One copy of each of the listed documents is submitted herewith.

1. Japanese Unexamined Patent Application Publication No. 7-273200, published October 20, 1995.
2. Japanese Unexamined Patent Application Publication No. 2-99285, published April 11, 1990.
3. Japanese Unexamined Patent Application Publication No. 7-321209, published December 8, 1995.
4. International Unexamined Patent Application Publication No. 00/08687, published February 17, 2000.

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Tomoki HIROTA
09/813,992
INFORMATION DISCLOSURE STATEMENT

The present Information Disclosure Statement is being filed after the later of three months from the application's filing date and the mailing date of the first Office Action on the merits, but before a Final Office Action, Notice of Allowance, or an action that otherwise closes prosecution in the application (whichever is earlier), and therefore Applicant is filing concurrently herewith a Statement Under 37 C.F.R. § 1.97(e). No fee under 37 C.F.R. § 1.17(p) is required.

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant encloses herewith a copy of a Japanese Office Action dated December 4, 2002 and an English translation of the pertinent portions thereof, which cites and indicates the degree of relevance found by the foreign patent office.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

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WASHINGTON OFFICE



23373

PATENT TRADEMARK OFFICE

Date: January 22, 2003

Respectfully submitted,

Howard L. Bernstein
Registration No. 25,665 for
J. Frank Osha
Registration No. 24,625

Ref. # Q63598

Description (For the cited literature, see the List of Cited Literature.)

<Regarding Claims 1, ~~3~~, 5, ~~11~~>

- Reasons 1, 2
- Cited Literature 1
- Remarks:

Refer specifically to Fig. 1 and its explanation in Cited Literature 1.

<Regarding Claim ~~2~~ 3>

- Reasons 1, 2
- Cited Literature 2
- Remarks:

Refer specifically to Figs. 1 and 2 and their explanations in Cited Literature 2.

<Regarding Claims 4, 6, ~~12, 13~~>

- Reason 2
- Cited Literature 1, 3
- Remarks:

There is no unique difficulty in adapting the technology to prevent an effect on the neighboring fuse by using BPSG film 7 (corresponding to the cover layer in Claim 4) described in Fig. 1 of Cited Literature 3. Moreover, refer specifically to page 4, left column line 39 to right column line 3 in Cited Literature 3 regarding the point about molding the fuse and the integrated circuit routing into a single unit.

<Regarding Claim ~~5~~ 7>

- Reasons 1, 2
- Cited Literature 4
- Remarks:

Refer specifically to page 8 lines 1 to 19 of Cited Literature 4.

<&del>Regarding Claims 6, 14, 15>

- Reason 2
- Cited Literature 3, 4
- Remarks:

There is no unique difficulty in adapting the technology to prevent an effect on the neighboring fuse by using the BPSG film 7 (corresponding to the cover layer in Claim 4) described in Fig. 1 of Cited Literature 3 to the invention described in Cited Literature 4. Moreover, refer specifically to page 4, left column, line 39 to right column line 3 in Cited Literature 3 regarding the point about molding the fuse and the integrated circuit routing into a single unit. Furthermore, it is a very common practice to use the same etching process to form the counter unit of the integrated circuit unit and the cutoff region unit of the fuse unit.

<&del>Regarding Claim 7>

- Reason 2
- Cited Literature 1 to 4
- Remarks:

There is no unique difficulty in applying the fuse cutoff method based on the fuse cutoff device disclosed in Cited Literature 2 into a fuse that combines Cited Literature 1, Cited Literature 3 and Cited Literature 4.

<Regarding Claim 8>

- Reason 2
- Cited Literature 1 to 4
- Remarks:

There is no unique difficulty in applying the fuse cutoff device disclosed in Cited Literature 2 into a fuse that combines Cited Literature 1, Cited Literature 3 and Cited Literature 4.

<Regarding Claims 9, 10 2, 4>

- Reasons 1, 2
- Cited Literature 4
- Remarks:

Using a fuse cutoff method and fuse cutoff device in relation to a fuse that makes a relative change in the Z direction as disclosed in Cited Literature 4 is a common method.

List of Cited Literature

1. Japanese Unexamined Patent Application Publication H07-273200
2. Japanese Unexamined Patent Application Publication H02-099285
3. Japanese Unexamined Patent Application Publication H07-321209
4. International Unexamined Patent Application Publication 00/008687 Pamphlet

Record of Prior Art Literature Search Results

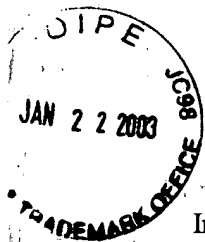
Fields searched IPC 7th Ed.
 H01L 27/04, H01L 21/82
 H01L 21/822, H01L 21/8242

<Suggestions for corrections>

Please refer to Published Japanese Translation of a PCT Application 2002-522905 for the above Cited Literature 4.

The aforementioned suggestions for corrections have no legal effect, and are proposals for resolving the reasons for rejection. The applicant should decide how to correct the specifications and diagrams.

This Record of Prior Art Literature Search Results does not constitute a reason for rejection.



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INTEGRATED CIRCUIT DEVICE, AND METHOD OF MANUFACTURING SAME

STATEMENT UNDER 37 C.F.R. § 1.97(e)

Commissioner for Patents
Washington, D.C. 20231

Sir:

The undersigned hereby states, upon information and belief:

That each item of information contained in the Information Disclosure Statement filed
concurrently herewith was first cited in any communication from a foreign patent office in a counterpart
foreign application not more than three months prior to the filing of said Information Disclosure
Statement.

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PATENT TRADEMARK OFFICE

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Respectfully submitted,


Howard L. Bernstein
Registration No. 25,665 for
J. Frank Osha
Registration No. 24,625

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拒絶理由通知書

特許出願の番号	特願2000-082577 [✓]
起案日	平成14年12月 2日
特許庁審査官	大嶋 洋一 9170 4L00
特許出願人代理人	金田 暢之 (外 2名) 様
適用条文	第29条第1項、第29条第2項

この出願は、次の理由によって拒絶をすべきものである。これについて意見があれば、この通知書の発送の日から60日以内に意見書を提出して下さい。

理 由

1. この出願の下記の請求項に係る発明は、その出願前日本国内又は外国において頒布された下記の特許公報に記載された発明であるから、特許法第29条第1項第3号に該当し、特許を受けることができない。
2. この出願の下記の請求項に係る発明は、その出願前日本国内又は外国において頒布された下記の特許公報に記載された発明に基いて、その出願前にその発明の属する技術の分野における通常の知識を有する者が容易に発明をすることができたものであるから、特許法第29条第2項の規定により特許を受けることができない。

記 (引用文献等については引用文献等一覧参照)

<請求項1, ⁵~~2~~, ~~1-1~~について>

- ・理由 1, 2
- ・引用文献 1
- ・備考

引用文献1の、特に第1図及びその説明箇所を参考のこと。

<請求項³~~2~~について>

- ・理由 1, 2
- ・引用文献 2
- ・備考

引用文献2の、特に第1, 2図及びその説明箇所を参考のこと。

<請求項⁶~~4~~, ~~1-2~~, ~~1-3~~について>

- ・理由 2
- ・引用文献 1, 3
- ・備考

引用文献3の、第1図に記載されたBPSG膜7（請求項4におけるカバー層に対応）による隣接ヒューズへの影響を阻止する技術を、引用文献1の、特に第1図に記載された発明に採用することに格別な困難性は認められない。また、ヒューズと集積回路の配線を一体形成する点については、引用文献3の、特に第4頁左欄39行～右欄3行を参考にされたい。

<請求項⁷5について>

- ・理由 1, 2
- ・引用文献 4
- ・備考

引用文献4の、特に、第8頁1～19行を参考のこと。

<請求項~~6~~、~~14~~、~~15~~について>

- ・理由 2
- ・引用文献 3, 4
- ・備考

引用文献3の、第1図に記載されたBPSG膜7（請求項4におけるカバー層に対応）による隣接ヒューズへの影響を阻止する技術を、引用文献4に記載された発明に採用することに格別な困難性は認められない。また、ヒューズと集積回路の配線を一体形成する点については、引用文献3の、特に第4頁左欄39行～右欄3行を参考にされたい。さらに、集積回路部のコンタクト部とヒューズ部の切断領域部を同一のエッチング工程で行うことは常套手段である。

<請求項~~7~~について>

- ・理由 2
- ・引用文献 1～4
- ・備考

引用文献1、引用文献3および引用文献4を組み合わせたヒューズにおいて、引用文献2に開示されたヒューズ切断装置によるヒューズ切断方法を適用することに格別な困難性は認められない。

<請求項~~8~~について>

- ・理由 2
- ・引用文献 1～4
- ・備考

引用文献1、引用文献3および引用文献4を組み合わせたヒューズにおいて、引用文献2に開示されたヒューズ切断装置を適用することに格別な困難性は認められない。

<請求項^{2, 4}~~9~~、~~10~~について>

- ・理由 1, 2
- ・引用文献 4
- ・備考

引用文献4に開示されたZ方向に相対変化のあるヒューズに対するヒューズ切

断方法及びヒューズ切断装置として、通常の手法と認められる。

引用文献等一覧

1. 特開平07-273200号公報
2. 特開平02-099285号公報
3. 特開平07-321209号公報
4. 国際公開第00/008687号パンフレット

先行技術文献調査結果の記録

・調査した分野 IPC第7版
 H01L27/04, H01L21/82
 H01L21/822, H01L21/8242

<補正等の示唆>

上記引用文献4については、特表2002-522905号公報を参考にされたい。

なお、上記の補正等の示唆は法律的效果を生じさせるものではなく、拒絶理由を解消するための一案である。明細書及び図面をどのように補正するかは出願人が決定すべきものである。

この先行技術文献調査結果の記録は、拒絶理由を構成するものではない。

この拒絶理由通知の内容に関するお問い合わせ(例: 引用文献の番号違い等)、または技術説明等の面接の御希望がございましたら下記までご連絡下さい。

特許審査第三部 半導体集積回路

審査官 大嶋 洋一

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